Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Previously presented): A method of calibrating a plurality of communications channels, said method comprising:

varying a frequency of a calibration signal driven into each of said communications channels, said calibration signal inducing a varying standing wave on each said communications channel;

detecting a particular condition of said varying standing wave on each said communications channel;

determining from said detected condition of said varying standing wave on each said communications channel a propagation delay through each said communications channel; and

calibrating said communications channels,

wherein said step of varying a frequency comprises varying said signal from an initial frequency through a range of frequencies, and wherein said initial frequency corresponds to one of a quarter wave, a half wave, or an integer multiple of a quarter wave or half wave with respect to an estimated length of one of said communications channels.

Claim 2 (Canceled)

Claim 3 (Previously presented): The method of claim 1, further comprising terminating said communications channels in one of a shorted condition or an open condition.

Claim 4 (Original): The method of claim 3, wherein said detecting step comprises detecting one of a null or a peak in an envelope of said varying standing wave on each said communications channel approximately at an end of each said communications channel into which said calibration signal is driven.

Claim 5 (Original): The method of claim 4, wherein said null or said peak in said envelope is detected by averaging two approximately equal values along said envelope.

Claim 6 (Original): The method of claim 4, wherein said propagation delay of each said communications channel is calculated from a frequency of said calibration signal at which said null or said peak is detected.

Claim 7 (Previously presented): The method of claim 1, wherein:

each said transmission line is terminated in an open condition;

said varying step comprises varying said calibration signal from an initial frequency that corresponds to a quarter wave or an integer multiple of a quarter wave with respect to an estimated length of one of said communications channels;

said detected condition of said varying standing wave on each said communications channel comprises a null of said varying standing wave on said communications channel at approximately an end of said communications channel into which said calibration signal is driven; and

said determining step comprises calculating said propagation delay using a frequency of said calibration signal that resulted in said null at said end of said communications channel.

Claim 8 (Previously presented): The method of claim 1, wherein:

each said transmission line is terminated in an open condition;

said varying step comprises varying said calibration signal from an initial frequency that corresponds to a half wave or an integer multiple of a half wave with respect to an estimated length of one of said communications channels;

said detected condition of said varying standing wave on each said communications channel comprises a peak of said varying standing wave on said communications channel at approximately an end of said communications channel into which said calibration signal is driven; and

said determining step comprises calculating said propagation delay using a frequency of said calibration signal that resulted in said peak at said end of said communications channel.

Claim 9 (Previously presented): The method of claim 1, wherein:

each said transmission line is terminated in an closed condition;

said varying step comprises varying said calibration signal from an initial frequency that corresponds to a quarter wave or an integer multiple of a quarter wave with respect to an estimated length of one of said communications channels;

said detected condition of said varying standing wave on each said communications channel comprises a peak of said varying standing wave on said communications channel at approximately an end of said communications channel into which said calibration signal is driven; and

said determining step comprises calculating said propagation delay using a frequency of said calibration signal that resulted in said peak at said end of said communications channel.

Claim 10 (Previously presented): The method of claim 1, wherein:

each said transmission line is terminated in an closed condition;

said varying step comprises varying said calibration signal from an initial frequency that corresponds to a half wave or an integer multiple of a half wave with respect to an estimated length of one of said communications channels;

said detected condition of said varying standing wave on each said communications channel comprises a null of said varying standing wave on said communications channel at approximately an end of said communications channel into which said calibration signal is driven; and

said determining step comprises calculating said propagation delay using a frequency of said calibration signal that resulted in said null at said end of said communications channel.

Claim 11 (Original): The method of claim 1, wherein said communications channels communicatively connect a tester to an electronics device under test.

Claim 12 (Original): The method of claim 11, wherein each said communications channel comprises a probe for contacting a terminal of said electronic device under test.

Claim 13 (Original): The method of claim 11, wherein said calibrating step comprises adjusting a variable propagation delay in at least one of said communications channels.

Claim 14 (Previously presented): A method of calibrating a plurality of communications channels, said method comprising:

selecting an initial frequency for a calibration signal, wherein said initial frequency corresponds to one of a quarter wave, a half wave, or an integer multiple of a quarter wave or a half wave of an estimated length of one of said communications channels;

driving said calibration signal into a plurality of communications channels;

sweeping said calibration signal through a range of frequencies;

for each said communications channel, determining a frequency in said range that causes a particular waveform condition to appear on each of said communications channels; and

for each said communications channel, using said frequency to determine a propagation delay through said communications channel.

Claim 15 (Original): The method of claim 14, wherein each said communications channel is terminated in one of a shorted condition or an open condition.

Claim 16 (Original): The method of claim 15, wherein said particular waveform condition comprises one of a null or a peak in an envelope of a varying standing wave on each said communications channel, wherein said null or said peak is detected approximately at an end of each said communications channel into which said calibration signal is driven.

Claim 17 (Original): The method of claim 16, wherein said null or said peak in said envelope is detected by averaging two approximately equal values along said envelope.

Claim 18 (Original): An apparatus for calibrating a plurality of communications channels of a test system, wherein said test system comprises drivers for driving test data through said communications channels to terminals of an electronic device under test, and wherein each said communications channel terminates in a probe for contacting one of said terminals of said electronic device, said apparatus comprising:

a signal generator configured to sweep a calibration signal from an initial frequency through a range of frequencies, wherein said calibration signal is input into said drivers and driven onto said communications channels;

a plurality of envelope detectors each having an input connected to a drive end of one of said communications channels; and

a plurality of wave form detectors each connected to an output of one of said envelope detectors, each said wave form detector configured to detect one of a null or a peak.

Claim 19 (Original): The apparatus of claim 18 further comprising means for determining, using frequencies of said calibration signal at which each of said wave form detectors detected one of a null or a peak, a propagation delay for each of said communications channels.

Claim 20 (Original): The apparatus of claim 19 further comprising means for deskewing said communications channels.

Claim 21 (Previously presented): The apparatus of claim 18, wherein said initial frequency corresponds to one of a quarter wave, a half wave, or an integer multiple of a quarter wave or a half wave of an estimated length of one of said communications channels.

Claim 22 (Previously presented): A machine readable medium comprises instructions for causing said machine to perform a method, said method comprising:

selecting an initial frequency for a calibration signal, wherein said initial frequency corresponds to one of a quarter wave, a half wave, or an integer multiple of a quarter wave or a half wave of an estimated length of one of said communications channels;

driving said calibration signal into a plurality of communications channels;

sweeping said calibration signal through a range of frequencies;

for each said communications channel, determining a frequency in said range that causes a particular waveform condition to appear on each of said communications channels; and

for each said communications channel, using said frequency to determine a propagation delay through said communications channel.

Claim 23 (Original): The machine readable medium of claim 22, wherein each said communications channel is terminated in one of a shorted condition or an open condition.

Claim 24 (Original): The machine readable medium claim 23, wherein said particular waveform condition comprises one of a null or a peak in an envelope of a varying standing wave on each said communications channel, wherein said null or said peak is detected approximately at an end of each said communications channel into which said calibration signal is driven.

Claim 25 (Original): The machine readable medium 24, wherein said null or said peak in said envelope is detected by averaging two approximately equal values along said envelope.

Claim 26 (Original): A method of determining a value of an impedance, said method comprising:

determining a first frequency of a calibration signal driven onto a proximal end of a transmission line while said transmission line is terminated in a known impedance that causes a particular condition in a varying standing wave on said transmission line;

determining a second frequency of said calibration signal while said transmission line is terminated in an unknown impedance that causes said particular condition on said transmission line; and

calculating a value of said unknown impedance.

Claim 27 (Original): The method of claim 26, wherein said known impedance is one of an open or a short.

Claim 28 (Previously presented): The method of claim 27, wherein said first frequency corresponds to one of a quarter wave, a half wave, or an integer multiple of a quarter wave or a half wave of a length of said transmission line.

Claim 29 (Previously presented): The method of claim 28, wherein said step of determining said first frequency comprises sweeping a frequency of said calibration signal from an estimated quarter wave, a half wave, or an integer multiple of a quarter wave or a half wave signal through a range of frequencies.

Claim 30 (Previously presented): The method of claim 29, wherein said step of determining said second frequency comprises sweeping a frequency of said calibration signal from said estimated quarter wave or, a half wave, or an integer multiple of a quarter wave or a half wave signal through said range of frequencies.

Claim 31 (New): The method of claim 26, wherein said calculating comprises calculating said value of said unknown impedance from said first frequency, said second frequency, and said known impedance.

Claim 32 (New): The method of claim 26, wherein said determining a first frequency comprises:

driving said calibration signal onto said proximal end of said transmission line while said transmission line is terminated in said known impedance;

varying a frequency of said calibration signal; and

determining a frequency of said calibration signal at which said particular condition in said standing wave on said transmission line occurs, wherein said determined frequency is said first frequency.

Claim 33 (New): The method of claim 32, wherein said determining a second frequency comprises:

driving said calibration signal onto said proximal end of said transmission line while said transmission line is terminated in said unknown impedance;

varying a frequency of said calibration signal; and

determining a frequency of said calibration signal at which said particular condition in said standing wave on said transmission line occurs, wherein said determined frequency is said second frequency.